

**REMARKS**

This is a full and complete response to the Office action dated January 5, 2007. The Applicants and their undersigned representatives would like to thank the Examiner for granting the telephone interview on January 26, 2007 wherein the above mentioned Office Action was discussed.

All comments and remarks of record are herein incorporated by reference. Applicants respectfully traverse these rejections and all comments made in the Office action. Nevertheless, in an effort to expedite prosecution, Applicants provide the following remarks regarding the cited references.

**DISPOSITION OF CLAIMS**

Claims 12, 14, 17-23, 25, and 27 are pending in the present application. No amendments have been made.

**REJECTION UNDER 35 USC §103**

Claims 12, 14, 17-23, 25 and 27 stand rejected under 35 USC §103(a) as being unpatentable over **Vonk et al.**, US 4,904,713, ("**Vonk**") in view of **Agostinis et al.**, US 4,874,821, ("**Agostinis**"). Applicants respectfully traverse this rejection.

**(a) Unexpected results**

The Examiner has stated in the Office action that the affidavits, filed October 16, 2006 are persuasive and that the instant application is in allowable condition. Despite this, the Examiner contends that the unexpected results provided by the Applicants in the declaration and reply filed on December 16, 2006 should be included in the present claims to be distinguished from the disclosure of the cited references. Applicants respectfully disagree.

Applicants respectfully submit that the Examiner is seeking to place a performance property limitation in the present claims, which are directed to a

composition. Accordingly, Applicants respectfully assert that such limitations need not be recited.

Applicants respectfully assert that the claims already recite sufficient structure to be novel and non-obvious in view of the cited references. The unexpected properties demonstrated in the examples of the application and declaration are an inherent and natural result of the use of the composition as claimed in the present application, and therefore need not be recited.

Applicants wish to remind the Examiner that the rejection in the Office action of December 14, 2005 argued that **Vonk** should be modified to include the ratio disclosed by **Agostinis**. The unexpected results in the application and the declaration were provided to further show that the proposed combination and modification of the references to read on the present claims would not be obvious to one of ordinary skill in the art.

For example, **Vonk** and **Agostinis** indicated that there is no particular advantage whether butadiene or isoprene is used. However, the experimental results of the application and declaration demonstrate that Isoprene produces superior results in the claimed composition. As the present claims already recite a bituminous composition comprising a block copolymer which comprises a conjugated diene having at least 80 mol% isoprene, no further amendment need be made to recite an inherent property of said block copolymer.

This is in line with the case law established by the Federal Circuit. In order to rebut a prima facie case of obviousness or to show that no prima facie case of obviousness has been established, the Federal Circuit has indicated that unexpected results may serve as a basis to show a claimed invention was not obvious. See *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (1990); MPEP §2144.08 II(B). In contrast, the Examiner citation of *In re Prater* for including further limitations into the present claims has little to do with the issues at hand. See *In re Prater*, 415 F.2d 1393, 162 USPQ 541 (CCPA 1969). *In re Prater* involved an application where the claims were so broadly written that they read solely on "mental steps" and not the machine process or machine implemented process as indicated in the specification. See *Prater*, 415 F.2d, 1395. The

claims were unacceptable because there was not enough tangible structure provided. This is not the case here.

The present application and the rejections by the Examiner deal with an entirely different issue in the present application. The issue at hand is a showing of unexpected results which bear on the question of obviousness. The unexpected results in the application and declaration are provided to demonstrate that the combination and modification proposed by the Examiner to read on the present claims would not be obvious to one of ordinary skill in the art. The Examiner has stated that such declaration and arguments are persuasive. Therefore, as the showing of unexpected results are admitted to be persuasive, it follows that the present claims are not prima facie obvious in view of the cited references. As the required showing of unexpected results according to *In re Dillon* and MPEP §2144.08 II(B) has been made, Applicants respectfully request that the 35 USC §103 rejection be withdrawn.

Therefore the requirement by the Examiner to include the unexpected results in the present application has no basis in law. Accordingly, Applicants respectfully request the rejection to be withdrawn.

(b) Block copolymer of Agostinis

The Examiner also further contends that it would be obvious to modify **Vonk** according to the ratio in **Agostinis** because **Agostinis** discloses that the ratio between B1 and A1 is assumed to be pure. Applicants respectfully traverse this assertion.

**Agostinis** discloses a block copolymer having four alternating blocks B1-A1-B2-A2. It is also very clear from the disclosure of **Agostinis** that this is not a pure block copolymer, in that there is a moiety between blocks B1 and A1 comprised of a random distribution of butadiene and styrene. See **Agostinis**, col. 2, lines 29-31; col. 3, lines 31-34; col. The moiety is there because during polymerization of the first 2 blocks, butadiene and styrene are mixed together and fed at the same time. See **Agostinis**, col. 3, lines 24-31. This mixing is not done with the other blocks, and therefore there are no moieties between the other blocks of the polymer. See **Agostinis**, col. 3, lines 35-47.

The Examiner stresses that B1 and A1 are referred to by **Agostinis** as being considered pure. However, Applicants respectfully assert that such blocks are considered pure ONLY for the purposes of calculating molecular weight. See **Agostinis** col. 4, lines 43-57. Because such blocks are only assumed to be pure for the purpose of calculating molecular weight, they are in fact not pure. As the random moiety between the blocks A1 and B1 for 5 to 15% by weight of the total copolymer such moiety cannot be considered a trivial part of the molecule.

Thus, wherein **Vonk** discloses A-B-A, and A-B-A-B block molecules, such blocks have NO random moieties between the polymeric blocks. See **Vonk**, col. 4, lines 1-4. Therefore, one of ordinary skill in the art would have no motivation to modify **Vonk** in view of **Agostinis**, because the block copolymer of **Agostinis** has a random moiety between the blocks A1 and B1. Applicants respectfully assert that no prima facie case of obviousness can be established, and accordingly, respectfully request that the above rejection be withdrawn.

(c) Table 2

The Examiner also states in the Office Action that the results shown in table 2 of the present application are not commensurate in scope with Applicants claims because it is well known in the art that tetrablocks as claimed are chemically different from diblocks or triblocks. While the statement can be made that diblock, triblock and tetrablock polymers are considered to be “chemically” different, this chemical difference is in no way indicative of what physical properties will be achieved when tetrablock copolymers are utilized in bituminous compositions.

Applicants respectfully assert that the data in Table 2 was set forth to demonstrate that “a satisfactory balance was obtained between the adhesive properties and the typical rheological performance” and that the “results observed easily match those of the compound with multiple ingredients.” In other words Table 2 demonstrates that when using the block copolymer claimed, it is possible to achieve good physical properties without the addition of additional polymers or oil and resin. Accordingly, there is still no expectation that tetrablocks according to the present claims would produce superior

results in bituminous compositions. Furthermore, as the block copolymer of **Agostinis** is directed to use in hot melt adhesives, one of skill in the art would still not expect tetrablocks to necessarily produce superior results in bituminous compositions. This is further supported by the fact that the examples and results presented by **Agostinis** are those typically measured for hot melt adhesive compositions, not bituminous compositions for use in roofing applications. As previously noted by Applicants, simply because a polymer gives good performance in traditional adhesives (hot melt adhesives), it does not necessarily follow that this polymer will also work as well, or better, in other utilities such as bituminous compositions for roofing applications. Since this is the case, Applicants maintain that the claims of the present application as currently written are patentable over **Vonk** and **Agostinis**.

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### **Conclusion**

Having addressed all issues set out in the Office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,  
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